PERSONAL EQUATION IN TRANSIT OBSERVATIONS.

By R. H. Tucker.

In May, the difference of personal equation in chronographic transit observations was determined for Dr. C. C. Kiess and the writer, by observing the same groups of stars on two nights, with the meridian circle. On the first night the difference of clock corrections for the two observers was T–K = + 0^s.012. On the second night the difference for the alternate groups was T–K = — 0^s.013.

Thus, from this brief comparison, the difference of personal equation would appear to be negligible in the third place of decimals.

The errors of tabular right ascension are eliminated by the alternation of the groups of stars, and the errors of the determination of the instrumental corrections practically disappear also; the combined effects from both sources being represented by the mean differences above. Collimation was determined by opposing collimators, level from reading on the nadir, and azimuth from observations of circumpolar stars, on both nights by observer T.

The probable error of a clock correction determined by one star would be ± 0^s.028, for either observer; while the differences of residuals would give ± 0^s.017, as the probable error of a determination free from the effect of error in the tabular right ascension.

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